

Study Finds No Single Cause of Honeybee Deaths



Jim Wilson/The New York Times

A California beekeeper used smoke to calm bees in hives being divided. Honeybees pollinate hundreds of crops, and many farmers are worried.

By JOHN M. BRODER
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WASHINGTON — The devastation of American [honeybee](#) colonies is the result of a complex stew of factors, including pesticides, parasites, poor nutrition and a lack of genetic diversity, according to a comprehensive federal [study](#) published on Thursday. The problems affect pollination of American agricultural products worth tens of billions of dollars a year.

The report does not place more weight on one factor over another, and recommends a range of actions and further research.

Honeybees are used to pollinate hundreds of crops, from almonds to strawberries to soybeans. Since 2006, millions of bees have been [dying](#) in a phenomenon known as colony collapse disorder. The cause or causes have been the subject of much study and speculation.

The federal report appears the same week that European officials took steps toward [banning](#) a class of pesticides

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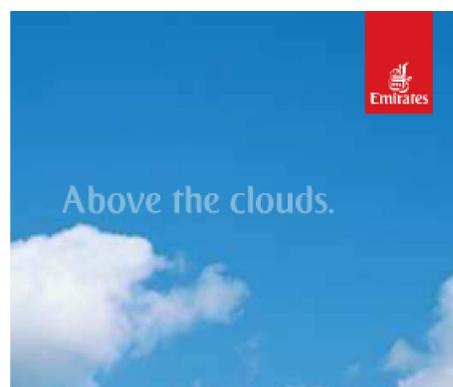
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known as neonicotinoids, derived from nicotine, that they consider a critical factor in the mass deaths of bees there.

But officials in the United States Department of Agriculture, the [Environmental Protection Agency](#) and others involved in the bee study said that there was not enough evidence to support a ban on one group of pesticides, and that the costs of such action might exceed the benefits.

“At E.P.A. we let science drive the outcome of decision making,” said Jim Jones, the agency’s acting assistant administrator for chemical safety and pollution prevention. “There are non-trivial costs to society if we get this wrong. There are meaningful benefits from these pesticides to farmers and to consumers, as well as for affordable food.”

[May R. Berenbaum](#), head of the department of entomology at the University of Illinois at Urbana-Champaign and a participant in the study, said that examination of dead bees had found residues of more than 100 chemicals, insecticides and pesticides, including some used to control parasites in bee hives.

Like Mr. Jones, she rejected the idea of an immediate ban on the use of neonicotinoids or any other single pesticide.

“It’s not a simple matter of just removing pesticides,” she said in a conference call for reporters Thursday. “It is difficult to predict the effect of removing one of 100 different contaminants.”

“There is no quick fix,” she said. “Patching one hole in a boat that leaks everywhere is not going to keep it from sinking.”

One of the most fatal afflictions in bee colonies is the parasitic mite [Varroa destructor](#), which infests beehives and is thought to be responsible for numerous die-offs. Another factor is the planting of vast areas in a single crop like corn, limiting the forage supplies for bees.

Zac Browning, a fourth-generation commercial beekeeper who operates more than 20,000 hives for honey production and pollination in California, Idaho and North Dakota, said the solution to the bee crisis will require a broad approach and many players.

He said that the supply of bees is falling short of the need, citing difficulty rounding up enough bees to pollinate the winter almond crop in California and blueberry bushes in Maine this spring.

“We’re on the brink,” he said. “I don’t know if we’ve crossed that threshold yet, but we’re getting there fast.”

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